

Remarks

In view of the above amendments and the following remarks, reconsideration of the objections and rejection, and further examination are requested.

Claims 1 and 3 have been objected to as including informalities. Claims 1 and 3 have been amended so as to address the informalities. As a result, withdrawal of the objections is respectfully requested.

Claims 1, 3, 29 and 30 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Osamu (JP 06-203865) in view of Erickson (US 4,287,170). This rejection is respectfully traversed and submitted to be inapplicable to the claims for the following reasons.

Claim 1 is patentable over the combination of Osamu and Erickson, since claim 1 recites a fuel cell power generation apparatus including, in part, a fuel reforming device operable to reform a gas; a fuel cell body including an anode, the fuel cell body being operable to discharge an anode exhaust gas from the anode; and adsorbent reduction means for reducing an oxygen adsorbent by feeding the reformed gas from the fuel reforming device or the anode exhaust gas from the fuel cell body into the oxygen adsorbent of inert gas formation means. The combination of Osamu and Erickson fails to disclose or suggest the adsorbent reduction means as recited in claim 1.

The fuel cell power generation apparatus, as recited in claim 1, is able to generate an inert gas by removing oxygen from a raw gas with an oxygen adsorbent. Also, the fuel cell power generation apparatus can regenerate the oxygen adsorbent by reducing it with a reformed gas from a fuel reforming device of the fuel cell power generation apparatus or an anode exhaust gas from an anode of a fuel cell body of the fuel cell power generation apparatus. Therefore, there is no need to prepare additional oxygen adsorbent. As a result, operation costs and maintenance are reduced.

Additionally, since there is no need to prepare a gas for reducing and regenerating the oxygen adsorbent, there is also no need to have a storage tank for the gas used to reduce and regenerate the oxygen adsorbent. As a result, the fuel cell power generation apparatus can also be made smaller. The combination of Osamu and Erickson fails to disclose or suggest the adsorbent reduction means of claim 1.

Osamu discloses a fuel cell system including a fuel cell main body 2, a reforming vessel 1, an exhaust gas burner 12 and an oxygen gas removing device 8. (See Abstract and Figure 1).

As admitted in the rejection, while Osamu does disclose that the oxygen gas removing device 8 removes oxygen from burner exhaust gas to form an inert gas which is stored in a tank 6, there is no disclosure in Osamu of the operation of the oxygen gas removing device 8. Further, as also admitted in the rejection, Osamu fails to disclose or suggest the adsorbent reduction means as recited claim 1. As a result, Erickson is relied upon as disclosing this feature.

Regarding Erickson, it discloses an adsorber 3 that adsorbs oxygen using an oxygen acceptor and a scavenger vessel 4 that includes an oxygen scavenger that is also capable of removing oxygen. Erickson also discloses a reducer vessel 9 which regenerates the oxygen scavenger from the scavenger vessel 4 that has been fully oxidized, with the use of a reducing gas. (See column 4, lines 55-59; column 5, lines 12-18; Abstract; and Figure 1).

As discussed above, Erickson discloses that the oxygen scavenger used to adsorb oxygen in the scavenger vessel 4 is regenerated in the reducer vessel 9 using a reducing gas. However, there is no disclosure or suggestion in Erickson of where the reducing gas originates. Therefore, it is clear that Erickson fails to disclose or suggest that the regeneration of the oxygen scavenger is performed by reducing it with the use of a reformed gas reformed in a fuel reforming device or an anode gas discharged from an anode of a fuel cell body. Further, there is no disclosure or suggestion in either Osamu or Erickson of any way in which the reducer vessel 9 in which the oxidized scavenger is regenerated could be integrated with the system of Osamu so as to teach the claimed adsorbent reduction means and render claim 1 obvious. It is also noted that, since the reducing vessel 9 of Erickson uses the reducing gas to recharge the oxidized scavenger, any combination of Osamu and Erickson cannot realize the above-discussed benefits associated with the present invention as recited in claim 1. As a result, the combination of Osamu and Erickson fails to render claim 1 obvious.

Regarding claim 3, the rejection indicates that Osamu discloses that oxygen adsorbent is positioned in at least one of a location in raw gas feeding means, a location between a reforming catalyst layer and a CO conversion catalyst layer provided in a fuel reforming device, a location upstream of the reforming catalyst layer within the fuel reforming device, and a location in the reforming catalyst layer provided in the fuel reforming device. However, it is apparent that Osamu only discloses that the oxygen gas removing device 8 is located upstream of the fuel reforming device 1. (See Figure 1). As a result, Osamu also fails to disclose or suggest this feature of claim 3.

Regarding claim 30, the rejection indicates that the oxygen gas removing device 8 is located adjacent to the fuel reforming device 1 such that oxygen adsorbent contained in the oxygen gas removing device 8 is heated by the fuel reforming device 1. However, as admitted in the rejection of claim 1, Osamu fails to disclose or suggest any of the details of the operation of the oxygen gas removing device 8. Therefore, it is unknown whether or not the oxygen gas removing device 8 is even heated. Further, based on the illustration in Figure 1, it is impossible to determine whether or not the oxygen gas removing device 8 is located adjacent to the fuel reforming device 1. As a result, Osamu fails to disclose or suggest this feature of claim 30.

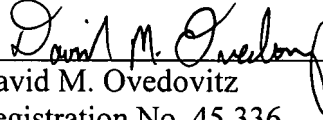
Additionally, it is requested that withdrawn claims 10-12, 17, 20, 23 and 26 be given due consideration as being dependent from claim 1, which is patentable over the references relied upon in the rejection.

Because of the above-mentioned distinctions, it is believed clear that claims 1, 3, 10-12, 17, 20, 23, 26, 29 and 30 are allowable over the references relied upon in the rejection. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as result in, or otherwise render obvious, the present invention as recited in claims 1, 3, 10-12, 17, 20, 23, 26, 29 and 30. Therefore, it is submitted that claims 1, 3, 10-12, 17, 20, 23, 26, 29 and 30 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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